

CompSci 94

Variables and Array Indexing

October 29, 2024



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Announcements

- Assignment 4 due tonight!
- Videos and online quiz for next class

Pig and Panda arrays

- Two arrays, animals are in the arrays from left to right as seen



unmanaged

▼ Pig[] pigArray ← new Pig[] { this.pig, this.pig2, this.pig3, this.pig4 }

▼ Panda[] pandaArray ← new Panda[] { this.panda, this.panda2, this.panda3, this.panda4 }

Review1 - What is the code for?

- Code for Pigs to turn right one pig at a time?

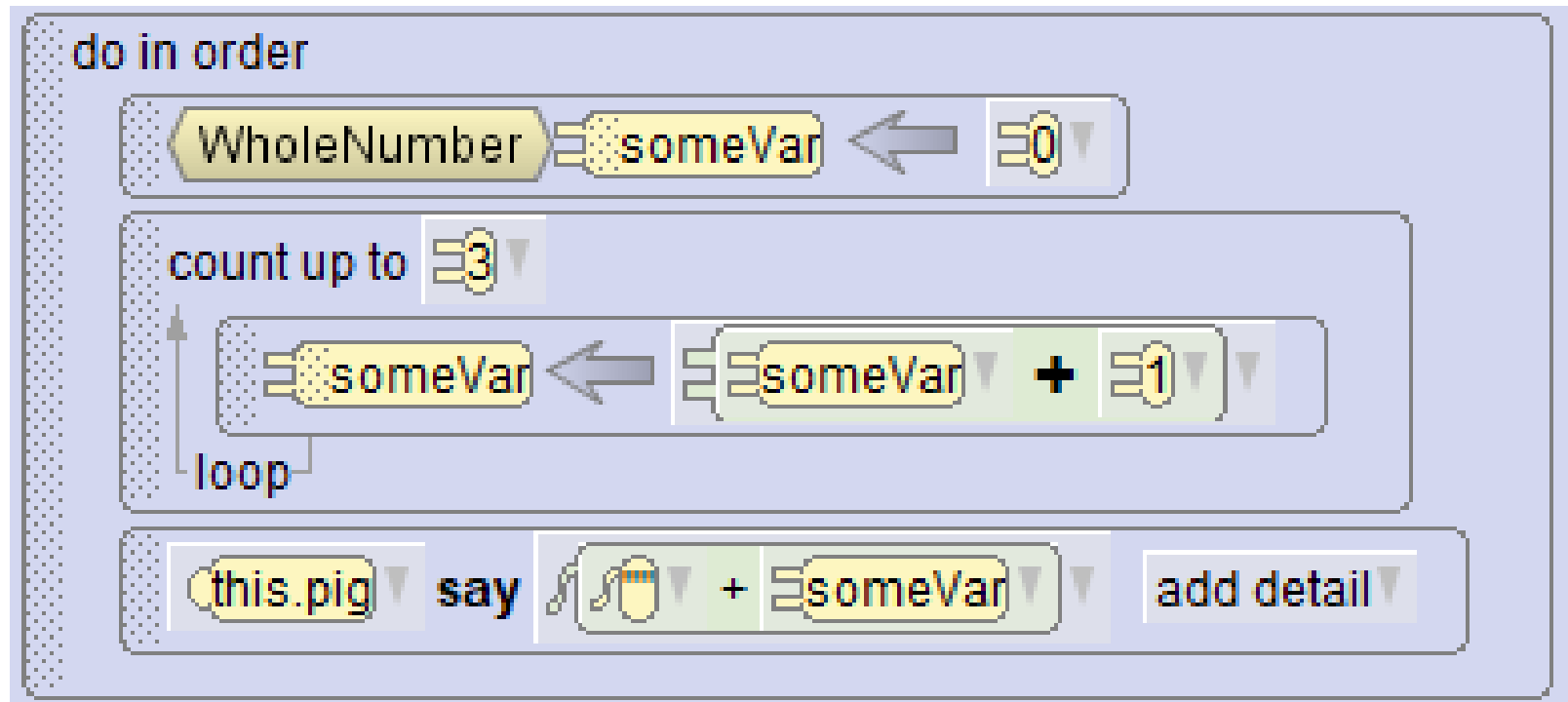
Review2 – What is the code for?

- Code for Pandas to bow **at the same time** (turn forward a little, then turn backward)?

Q1 – Questions about variables

- What is the difference between a const variable and a variable?
- Which Alice construct do you use to change a variable?

Q2 - What is the output of this code?



do in order

WholeNumber

someNum

←

0

count up to 3

someNum


←

someNum

+

1

loop

this.pig4 say  + 1

add detail

1

add detail

1 (current value)

0

1

2

3

Random ▶

Decimal to Whole Number ▶

Math ▶

Custom WholeNumber...

array length:

this.pigArray.length

this.pandaArray.length

TextString ▶

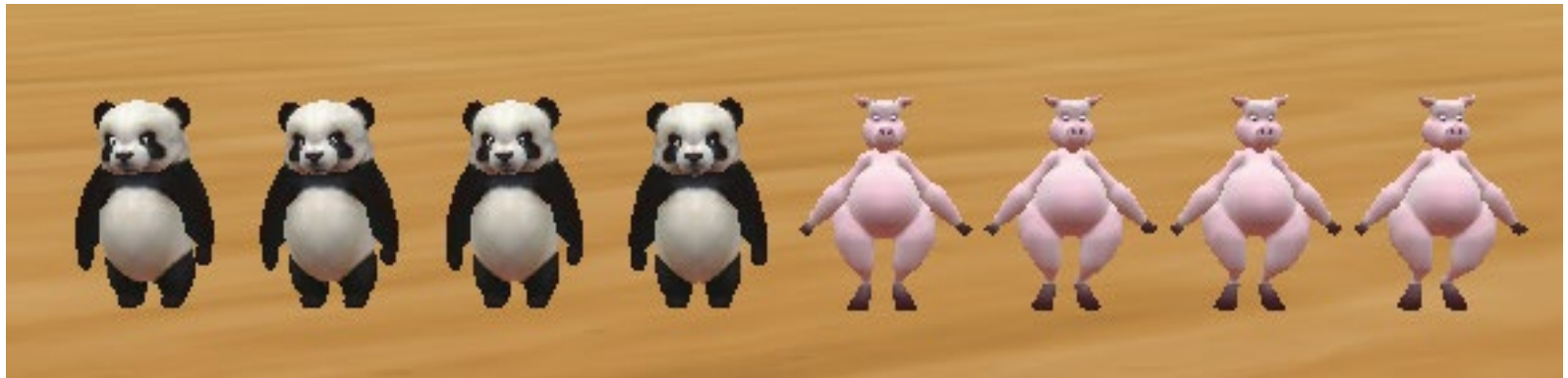
DecimalNumber ▶

SThing ▶

Q3 -- Consider this code.
Why isn't somenum a choice?

Pig and Panda arrays again

- Two arrays, animals are in the arrays from left to right as seen



unmanaged

▼ Pig[] pigArray ← new Pig[] { this.pig, this.pig2, this.pig3, this.pig4 }

▼ Panda[] pandaArray ← new Panda[] { this.panda, this.panda2, this.panda3, this.panda4 }

Q4 – How do I write an **array index loop** to have each pig turn right once?

- *Fill in the missing code:*

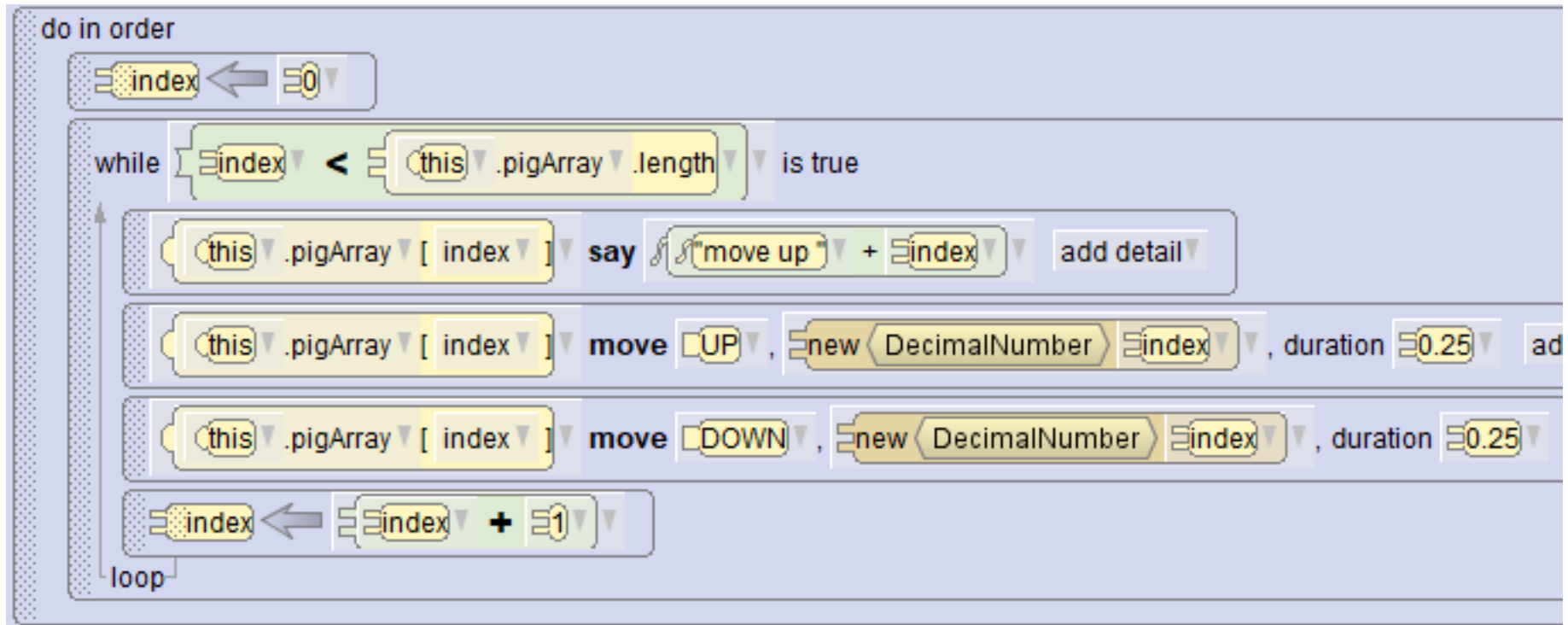
The image shows a Scratch code editor snippet. It features a 'do in order' loop block. Inside the loop, there is a 'WholeNumber' block with a 'value' of 0, followed by an 'index' block. Below this, there is a 'count up to' block with a 'value' of 'this.pigArray.length'. The 'loop' block is currently empty, indicating where the missing code should be written.

Q5 – How do I write code to have each pig turn right once one at a time, with one of the pandas turning with each pig?

- *Fill in missing code:*

The image shows a Scratch code editor with a 'do in order' loop. The loop contains a 'count up to' block with the following code: `index ← 0`, `count up to` `this.pigArray.length`, and `index ← index + 1`. The 'loop' block is at the bottom of the loop structure.

Q6 – What does this code do?

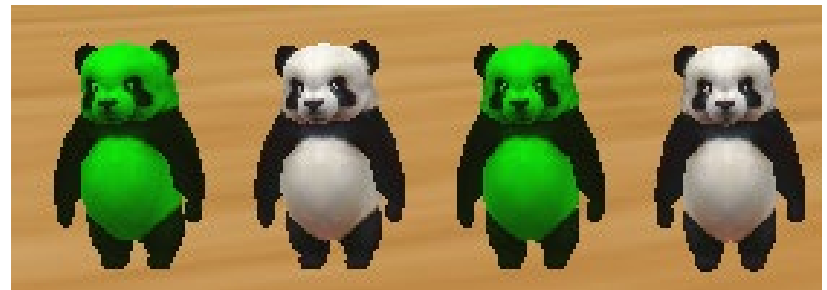


Q7 – How do you write code to color every other panda green in array?

- Start with no color

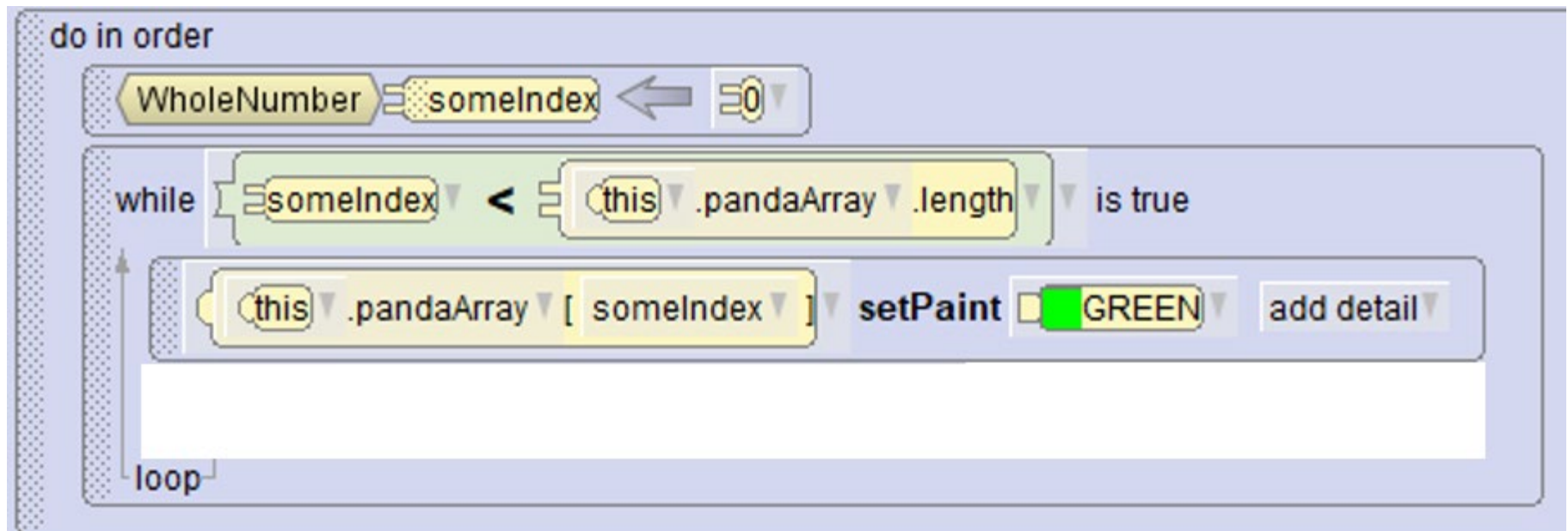


- Color every other green (1st one, 3rd one, etc.)



Q7 – How do you write code to color every other panda green in array?

- What is the missing line of code?



Class Today

- Array of penguins

That is every other penguin in the array

